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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/699,728 | JACOBSEN, DANA D. | |
| | **Examiner** | **Art Unit** | |
| | José M. Torres | 2624 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on 27 September 2007.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) 1-38 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-38 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 30, 2007 has been entered and made of record.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 32 and 33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 32 recites the limitation "the means for receiving the image data" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

Claim 33 recites the limitation "the means for image file compression/decompression" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 3, 9, 10, 11, 22 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over So et al. (U.S. Pat. No. 6,832,004) in view of Yokose et al. (U.S. Pat. No. 5,828,789).

As to claim 1, So et al. teaches a method for image compression (Col. 1 lines 8-10), comprising: tracking a pool of pixel predictors (FIG. 1, "predictors **12*a*-*e***"), each pixel predictor having a value ("ranks", Col. 6 lines 24-32 and Col. 7 lines 41-56); selecting a subset of pixel predictors from the pool (FIG. 1, "predictor determination circuit **13**", Col. 7 lines 5-36); updating the value of only those pixel predictors of the subset with each pixel processed (FIG. 1, "rank updating circuit **15**", Col. 7 lines 41-56); and rebalancing the pixel predictor subset to locally adapt to image conditions (The predictors are based on the pixel values neighboring the target pixel, therefore it is automatically adjusted to the conditions of the images. FIG. 5, Col. 8 lines 35-44).

However, So et al. does not explicitly disclose the subset including a number of predictors that is associated with a number of bits used to represent a pixel.

Yokose et al. teaches the subset including a number of predictors (FIG. 6A, "First, Second, and Third Prediction Sections **20**, **21** and **22**") that is associated with a number of bits used to represent a pixel (The coding technique used by the predictions sections comprise a number utilized to represent pixel values in bits, such as the Huffman coding techniques, see Col. 9 lines 43-63 and Col. 10 lines 31-40).

Therefore, in view of Yokose et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify So et al. to include a number of the predictors that is associated with a number of bits to represent a pixel, such as a Huffman coding technique, in order to improve the compression rate (Col. 9 lines 43-63).

As to claim 3, So et al. teaches the pool of pixel predictors are tracked in two dimensions (FIG. 4, Col. 8 lines 35-44).

As to claim 9, So et al. teaches incrementing a hit counter associated with each pixel predictor in the pool of pixel predictors when a match (Tolerance comparison) between a pixel predictor and processed pixel is found (Col. 7 lines 5-56).

As to claim 10, So et al. teaches the subset of possible pixel predictors is selected based on incremented hit counters (The selection of the predictor is based on the ranks. Col. 7 lines 41-56).

As to claim 11, So et al. teaches using a pixel predictor from the selected subset having a highest incremented hit counter value as the first pixel predictor used for pixel predictions (The most frequently selected predictor has the highest rank. Col. 7 lines 41-56).

As to claims 22 and 26, So et al. teaches a method/computer-readable medium of image compression (Col. 1 lines 8-10), comprising: assigning a hit counter ("ranks") to each of a number of pixel predictor values (Col. 6 lines 24-32 and Col. 7 lines 41-56); tracking matches between pixel predictor values and processed pixels in two dimensions (FIG. 1, "predictor determination circuit **13**", Col. 7 lines 5-36); updating one pixel predictor value to the last unmatched pixel value (Col. 7 lines 5-36); incrementing the hit counter based on tracked prediction matches (FIG. 1, "rank updating circuit **15**", Col. 7 lines 41-56); selecting a number of pixel predictors having the highest hit counters for future pixel predictions (FIG. 1, "predictor determination circuit **13**", Col. 7 lines 5-36 and Col. 10 lines 22-38); and rebalancing the hit counters to locally adapt to image conditions (As stated in claim 1, the hit counters also depends on the most applied prediction technique, therefore it is also dependant on the image conditions. Col. 7 lines 41-56 and Col. 8 lines 35-44).

However, So et al. does not explicitly disclose the number including a number of predictors that is associated with a number of bits used to represent a pixel.

Yokose et al. teaches the number including a number of predictors that is associated with a number of bits used to represent a pixel (Col. 9 lines 43-63).

Therefore, in view of Yokose et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify So et al. to include a number of the predictors that is associated with a number of bits to represent a pixel, such as a Huffman coding technique, in order to improve the compression rate (Col. 9 lines 43-63).

6. Claims 2, 4-6, 25 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over So et al. in view of Yokose et al. as applied to claim 1 and 3 above, and further in view of Clouthier et al. (U.S. Pub. No. 2003/0184809). The teachings of So et al. and Yokose et al. have been discussed above.

As to claim 2, So et al. and Yokose et al. fails to teach encoding verbatim a pixel being processed as an unmatched pixel value if no match is found between the pixel predictor subset and the pixel being processed.

Clouthier et al. teaches encoding verbatim a pixel being processed as an unmatched pixel value if no match is found between the pixel predictor subset and the pixel being processed (The compressor code the byte as is, if no match is found between the comparison of the byte with the previous options. Paragraphs [0062]-[0064]).

Therefore, in view of Clouthier et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify So et al. and Yokose et al. by incorporating the method step of performing a verbatim coding, as taught by Clouthier et al., when no match is found for the current byte and the predictors

tested in order to provide a fast compression pipeline because the pixel being compared is being compared 8 bits at a time, and when no match is found this pixel is encoded as is and the cache value is replaced with this value (Paragraphs [0023] and [0062]).

As to claims 4 and 5, So et al. further teaches the pixel locations include a NE, a NEE, a NW, a N, a NWW, a W, and a WW pixel location expressed geographically relative to a pixel being processed (FIG. 4, "$R_{5-11}$", Col. 8 lines 35-44).

However, So et al. and Yokose et al. fails to teach the pool of pixel predictors include pixel locations, including the location of the last unmatched pixel.

Clouthier et al. teaches the pool of pixel predictors include pixel locations, including the location of the last unmatched pixel (Paragraphs [0040]-[0043]).

Therefore, in view of Clouthier et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify So et al. and Yokose et al. by incorporating the pixel locations including the location of the last unmatched pixel, as taught by Clouthier et al., in order to provide a fast compression pipeline that has the ability to enable the decompression of data with specific location of identical data (Paragraphs [0035]-[0036]).

As to claim 6, So et al. further teaches the pool of pixel predictors includes a black pixel, a white pixel and a most common value pixel (The mean value greater or less than the average of the group represent the black and white pixel value and the

most common value is the approximation most used. Col. 6 line 45 through Col. 7 line 4 and lines 41-56).

However, So et al. does not explicitly disclose the pool of pixel predictors includes a last unmatched pixel and a cache pixel.

Clouthier et al. teaches the pool of pixel predictors includes a last unmatched pixel and a cache pixel (Paragraph [0059] and [0062]).

Therefore, in view of Clouthier et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify So et al. and Yokose et al. by incorporating the last unmatched and cache pixel, as taught by Clouthier et al., to the pool of pixel predictors in order to increment the number of options to predictive code the pixel being processed.

As to claims 25 and 29, So et al. does not explicitly disclose specifying a number of bit limits for encoding an indicator of a run command; encoding a literal command; encoding a prediction of a next pixel; encoding a seedrow count; and encoding a replacement count.

Clouthier et al. teaches specifying a number of bit limits for encoding an indicator of a run command; encoding a literal command; encoding a prediction of a next pixel; encoding a seedrow count; and encoding a replacement count (Paragraphs [0037]-[0045].

Therefore, in view of Clouthier et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify So et al. and

Yokose et al. by incorporating the method steps of specifying a number of bit limits for encoding an indicator of a run command; encoding a literal command, a prediction of a next pixel a seedrow count and a replacement count, as taught by Clouthier et al., in order to encode multiple bytes of color data with a couple of bytes and providing the decompressor enough data of a group of substantially identical pixels with less data (Paragraphs [0004] and [0010]).

7. Claims 7, 8, 12 and 13 rejected under 35 U.S.C. 103(a) as being unpatentable over So et al. in view of Yokose et al. as applied to claims 1 and 11 above, and further in view of Weinberger et al. ("The LOCO-I Lossless Image Compression Algorithm: Principles and Standardization into JPEG-LS", IEEE Transactions on Image Processing, Vol. 9, No. 8, Aug 2000, pp. 1309-1324). The teachings of So et al. and Yokose et al. have been discussed above.

As to claims 7 and 8, So et al. and Yokose et al. fails to teach the pool of pixel predictors tracked include continuous tone prediction algorithms that are selected form the group of LOCO, MED, LINEAR4, LINEAR5 and GAP.

Weinberger et al. teaches the pool of pixel predictors tracked include continuous tone prediction algorithms that are selected form the group of LOCO, MED, LINEAR4, LINEAR5 and GAP (III. Detailed Description of JPEG-LS, Section A. Prediction, page 1312).

Therefore, in view of Weinberger et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify So et al. and

Yokose et al. by incorporating the LOCO continuous tone prediction algorithm, as taught by Weinberger, in order to attain compression ratios similar or superior to those obtained with state-of-the-art schemes (Abstract, page 1309).

As to claims 12 and 13, So et al. further teaches rebalancing the selected subset after a set prediction interval.

However, So et al. and Yokose et al. fails to teach periodically rebalancing the hit counters when a first pixel predictor value in the subset reaches a specified limit.

Weinberger et al. further teaches periodically rebalancing the hit counters when a first pixel predictor value in the subset reaches a specified limit (III. Detailed Description of JPEG-LS, Section D. Resets, pages 1316-1317).

Therefore, in view of Weinberger et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify So et al. and Yokose et al. by incorporating the method step of rebalancing the hit counters when a first pixel predictor value in the subset reaches a specified limit, as taught by Weinberger et al., in order to give more weight to immediate past than to remote past (III. Detailed Description of JPEG-LS, Section D. Resets, pages 1316-1317).

8. Claims 14, 15, 18, 21, 23, 24, 27 and 28 rejected under 35 U.S.C. 103(a) as being unpatentable over So et al. in view of Yokose et al. as applied to claims 22 and 26 above, and further in view of Hoel (U.S. Pat. No. 6,741,368). The teachings of So et al. and Yokose et al. have been discussed above.

As to claims 14, 21, 23, 24, 27 and 28, So et al. teaches a method of image compression, comprising: assigning a hit counter to each of a number of pixels predictors (FIG. 1, "predictors **12*a*-*e***"), each pixel predictor having one of the pixel prediction values ("ranks", Col. 6 lines 24-32 and Col. 7 lines 41-56); tracking matches between pixel predictor values and a number of processed pixels in two dimensions (FIG. 1, "predictor determination circuit **13**", FIG. 4, Col. 7 lines 5-36 and Col. 8 lines 35-44); incrementing the hit counters based on tracked prediction matches (FIG. 1, "rank updating circuit **15**", Col. 7 lines 41-56); and selecting a number of pixel predictors having the highest hit counters for future pixel predictions (The selection of the predictor is based on the ranks. Col. 7 lines 41-56).

However, So et al. does not explicitly disclose communicating a number of pixel prediction values via a variable length code compression algorithm; the number including a number of predictors that is associated with a number of bits used to represent a pixel; and encoding verbatim a pixel being processed as an unmatched pixel value if no match is found.

Yokose et al. teaches the number including a number of predictors that is associated with a number of bits used to represent a pixel (Col. 9 lines 43-63).

Hoel teaches communicating a number of pixel prediction values via a variable length code compression algorithm Col. 12 lines 18-26); and encoding verbatim a pixel being processed as an unmatched pixel value if no match is found (Col. 11 lines 21-26).

Therefore, in view of Yokose et al. and Hoel, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify So et al.'s

method by incorporating the method steps of communicating a number of pixel prediction values via a variable length code compression algorithm, the number including a number of predictors that is associated with a number of bits used to represent a pixel and encoding verbatim a pixel being processed as an unmatched pixel value if no match is found in order to improve the compression rate (Yokose et al. Col. 9 lines 43-63) and provide a reduced memory space requirement method (Hoel Col. 5 lines 1-23)

As to claim 15, So et al. further teaches storing the incremented hit counters in a bit packing mechanism; and storing a number of run counts and replacement counts as variable length code (The rank/run length is coded using a Huffman coder, and its content includes the replacement counts as well as the run counts. Col. 7 line 57 through Col. 8 line 13).

As to claim 18, So et al. and Yokose et al. does not explicitly disclose each pixel predictor includes a pixel predictor location that is unary coded.

Hoel further teaches each pixel predictor includes a pixel predictor location that is unary coded (Col. 12 lines 18-26).

9. Claims 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over So et al. in view of Yokose et al. and Hoel as applied to claim 15 above, and

further in view of Clouthier et al. The teachings of So et al., Yokose et al. and Hoel have been discussed above.

As to claims 16 and 17, So et al., Yokose et al. and Hoel does not explicitly disclose a single bit is encoded to indicate a run/literal command.

Clouthier et al. further teaches a single bit is encoded to indicate a run/literal command (The data structure shown in FIG. 3, uses a bit to encode a run/literal command on data field **308**, when binary data is being compressed. Paragraphs [0035] and [0039]).

Therefore, in view of Clouthier et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify So et al., Yokose et al. and Hoel by incorporating the coding, as taught by Clouthier et al., using a single bit to indicate a run/literal command in order to provide a method which is applicable to different type of data (binary, bi-level, 8-bit, Paragraph [0023]).

10. Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over So et al. in view of Yokose et al. in view of Hoel as applied to claim 15 above, and further in view of Weinberger et al. The teachings of So et al., Yokose et al. and Hoel have been discussed above.

As to claims 19 and 20, So et al. modified by Hoel fails to teach each run/replacement count is encoded as variable length Gamma Golomb code.

Weinberger et al. teaches each run/replacement count is encoded as variable length Gamma Golomb code (II. Modeling Principles and LOCO-I, Section B. Applications to LOCO-I, *Coder*, page 1311).

Therefore, in view of Weinberger et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify So et al., Yokose et al., and Hoel by incorporating the Golomb-type coding, as taught by Weinberger et al., for the run/replacement counts in order to attain compression ratios similar or superior to those obtained with state-of-the-art schemes (Abstract, page 1309).

11. Claims 30 and 32-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoel in view of So et al. and Yokose et al.

As to claims 30 and 34, Hoel teaches an imaging forming system (FIG. 2, "printer device **16**"), comprising: a processor (FIG. 2, "digital processor **26**"); a memory (FIG. 2, "RAM **28**"); a media marking mechanism (FIG. 2, "print engine **34**"); interface electronics coupling the processor, the memory, and the media marking mechanism (The processor also compress the image data as stated in Col. 7 line 56 through Col. 8 line 7. FIG. 2, "bus **27** and line **31**", Col. 7 lines 41-47 and Col. 8 lines 22-37).

However, Hoel does not explicitly disclose a set of computer executable instructions/logic on the device stored on the memory and executed by the processor to: track a pool of pixel predictors, each pixel predictor having a value, select a subset of pixel predictors from the pool, the subset including a number of predictors that is

associated with a number of bites used to represent a pixel, update the value of only those pixel predictors of the subset with each pixel processed, and rebalance the pixel predictor subset to locally adapt to image conditions.

So et al. teaches a set of computer executable instructions/logic on the device stored on the memory and executed by the processor to: track a pool of pixel predictors (FIG. 1, "predictors **12*a*-*e***"), each pixel predictor having a value ("ranks", Col. 6 lines 24-32 and Col. 7 lines 41-56), select a subset of pixel predictors from the pool (FIG. 1, "predictor determination circuit **13**", Col. 7 lines 5-36), update the value of only those pixel predictors of the subset with each pixel processed (FIG. 1, "rank updating circuit **15**", Col. 7 lines 41-56), and rebalance the pixel predictor subset to locally adapt to image conditions (The predictors are based on the pixel values neighboring the target pixel, therefore it is automatically adjusted to the conditions of the images. FIG. 5, Col. 8 lines 35-44).

Yokose et al. teaches the subset including a number of predictors that is associated with a number of bites used to represent a pixel (Col. 9 lines 43-63).

Therefore, in view of So et al. and Yokose et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hoel's system by incorporating the instructions to track a pool of pixel predictors, each pixel predictor having a value, select a subset of pixel predictors from the pool, update the value of only those pixel predictors of the subset with each pixel processed, and rebalance the pixel predictor subset to locally adapt to image conditions, as taught by So et al., and the subset including a number of predictors that is associated with a

number of bites used to represent a pixel, as taught by Yokose et al., in order to provide a system which compresses image data using the prediction errors from previously encoded data, as well as the run length as a rule for compressing (So et al. Col. 5 lines 6-19), and improve the compression rate (Col. 9 lines 43-63).

As to claim 32 as understood, Hoel further teaches the means for receiving the image data includes an I/O connection to send and receive image data (FIG. 2, "I/O interface **32**").

As to claim 33 as understood, Hoel does not explicitly disclose the means for image file compression/decompression includes a set of computer executable instructions for two-dimensional compression/decompression with dynamic pixel predictor rebalancing.

So et al. further teaches the means for image file compression/decompression includes a set of computer executable instructions for two-dimensional compression/decompression with dynamic pixel predictor rebalancing (Col. 6 lines 24-32 and Col. 7 lines 5-36 and line 41 through Col. 8 line 13).

12. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hoel in view of So et al. And Yokose et al. as applied to claim 30 above, and further in view of Clouthier et al. The teachings of Hoel, So et al. and Yokose et al. have been discussed above.

As to claim 31, Hoel, So et al. and Yokose et al. does not explicitly disclose a set of computer executable instructions executed by the processor to encode an unmatched pixel value verbatim and update one pixel predictor value to the unmatched pixel value.

Clouthier et al. teaches a set of computer executable instructions executed by the processor to encode an unmatched pixel value verbatim and update one pixel predictor value to the unmatched pixel value (The value of the cached pixel is updated for the unmatched pixel. Paragraph [0062]).

Therefore, in view of Clouthier et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Hoel, So et al. and Yokose et al. by incorporating the instructions, as taught by Clouthier et al., of encode verbatim a pixel with no match and update a predictor value (Cache) to the value of the unmatched pixel in order to provide a fast compression pipeline because the pixel being compared is being compared 8 bits at a time (Paragraphs [0023] and [0062]).

13. Claims 36-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoel in view of So et al. and Yokose et al. as applied to claims 34 and 35 above, and further in view of Weinberger et al. The teachings of Hoel, So et al. and Yokose et al. have bee discussed above.

As to claims 36 and 37, Hoel, So et al. and Yokose et al. fails to teach at least one hit counter can be periodically reset and each hit counter has a total and wherein the total can be reset by dividing the total by a power of two.

Weinberger et al. teaches at least one hit counter can be periodically reset and each hit counter has a total and wherein the total can be reset by dividing the total by a power of two (III. Detailed Description of JPEG-LS, Section D. Resets, pages 1316-1317).

Therefore, in view of Weinberger et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Hoel, So et al. and Yokose et al. by incorporating the hit counter, as taught by Weinberger et al., and periodically resetting each counter by dividing the total by a power of two in order to give immediate past larger weight than the remote past (III. Detailed Description of JPEG-LS, Section D. Resets, pages 1316-1317).

As to claim 38, Hoel, So et al. and Yokose et al. fails to teach the number of pixel predictors are selected from the group including a number of set of pixel values and a number of compression algorithms.

Weinberger et al. further teaches the number of pixel predictors are selected from the group including a number of set of pixel values and a number of compression algorithms (III. Detailed Description of JPEG-LS, Section A. Prediction, page 1312).

Therefore, in view of Weinberger et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Hoel, So et

al. and Yokose et al. by incorporating the compression algorithms, as taught by Weinberger et al., in order to attain compression ratios similar or superior to those obtained with state-of-the-art schemes (Abstract, page 1309).

## ***Response to Arguments***

### Objections to the Specification

14. The Specification has been amended in Page 3 line 2 to recite, "printing device 710" to correct clerical error. Therefore, the objection has been removed.

### *Claim Rejections under 35 U.S.C. § 102*

15. Applicant's arguments with respect to claims 1, 3, 9-11, 22 and 26 have been considered but are moot in view of the new ground(s) of rejection.

### *Claim Rejections under 35 U.S.C. § 103*

16. Applicant's arguments with respect to claims 2, 4-8, 12-21, 23-25 and 27-38 have been considered but are moot in view of the new ground(s) of rejection.

## ***Conclusion***

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Allen disclose Data Encoding Using One or More Adaptive Decision Trees.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to José M. Torres whose telephone number is 571-270-1356. The examiner can normally be reached on Monday thru Friday: 8:00am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on 571-272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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JMT
12/21/2007

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